

Claims

06/07/2006 12:26 9147624126

Renumbered
RODNEY T HODGSON

PAGE 02

1 AMENDMENTS TO THE CLAIMS

- 1 1. (previously presented) A method for producing a pigment, comprising:
- 2 a) adding a phosphorus compound to an aqueous suspension of titanium dioxide base material,
3 then
- 4 b) adding a titanium compound; and
- 5 c) adding an aluminum compound,
- 6
- 7 wherein no significant amount of zirconium compound is or has been added to the aqueous
8 suspension of titanium dioxide base material; and then
- 9 d) adjusting the pH value of said suspension to a value of from 8 to 10; and then
- 10 e) adding a magnesium compound.

- 1 2. (Canceled)

- 1 ²
2 3. (Original) The method of claim 1, wherein the added phosphorus compound is an inorganic
2 phosphorus compound.

- 1 ³
2 4. (currently amended) The method of claim 3 claim 1, wherein the inorganic phosphorus
2 compound is selected from the group consisting of alkali phosphates, ammonium
3 phosphates, polyphosphates, and phosphoric acid.

- 1 ⁴
2 5. (Original) The method of claim 1, wherein the added phosphorus compound is 0.4 to 6.0%
2 by weight calculated as P₂O₅, referred to TiO₂ base material in the suspension.

5
1 6. (Original) The method of claim 5, wherein the added phosphorus compound is 1.0 to 4.0%
2 by weight, calculated as P₂O₅, referred to TiO₂ base material in the suspension.

6
1 7. (Original) The method of claim 6, wherein the added phosphorus compound is 1.6 to 2.8%
2 by weight, calculated as P₂O₅, referred to TiO₂ base material in the suspension.

7
1 8. (Original) The method of claim 1, wherein the titanium compound added is a hydrolyzable
2 titanium compound.

8
1 9. (Original) The method of claim 8, wherein the titanium compound added is selected from the
2 group consisting of titanyl sulphate and titanyl chloride.

9
1 10. (Original) The method of claim 8, wherein the quantity of titanium compound added is 0.1
2 to 3.0% by weight, calculated as TiO₂, referred to TiO₂ base material in the suspension.

10
1 11. (Original) The method of claim 10, wherein the quantity of titanium compound added is
2 0.1 to 1.5% by weight, referred to TiO₂ base material in the suspension.

11
1 12. (Original) The method of claim 11, wherein the quantity of titanium compound added is
2 0.1 to 1.0% by weight, calculated as TiO₂, referred to TiO₂ base material in the
3 suspension.

12
1 13. (Original) The method of claim 1, wherein the quantity of titanium compound added is 0.1
2 to 1.0% by weight, calculated as TiO₂, referred to TiO₂ base material in the suspension.

13
1 14. (Original) The method of claim 1, wherein the aluminum compound added is alkaline.

*14**13*

- 1 15. (Original) The method of claim 14, wherein the alkaline aluminum compound is selected
2 from the group consisting of sodium aluminate, alkaline aluminum chloride, and alkaline
3 aluminum nitrate.

*15**13 P3*

- 1 16. (Original) The method of claim 14, further comprising
2 d) adjusting the pH value of the suspension to a value of from 8 to 10 after step c).

- 1 17. (Original) The method of claim 1, wherein the aluminum compound added is acidic.

- 1 18. (Original) The method of claim 17, further comprising:

- 2 d) adjusting the pH value to a value between 8 and 10 by adding an alkaline aluminum
3 compound.

*18 19**16*

- 1 19. (Original) The method of claim 17, further comprising:
2 d) adjusting the pH value to a value between 8 and 10 by adding an alkaline aluminum
3 compound in combination with a base.

19

- 1 20. (Original) The method of claim 1, wherein during the addition of the aluminum compound,
2 the pH value of the suspension is maintained constant in the range from 2 to 10 by the
3 simultaneous addition of a pH modifying compound.

*20**19*

- 1 21. (Original) The method of claim 20, wherein during the addition of the aluminum compound,
2 the pH value of the suspension is maintained constant in the range from 4 to 9 by the
3 simultaneous addition of a pH modifying compound.

*21**20*

- 1 22. (Original) The method of claim 21, wherein during the addition of the aluminum compound,

2 the pH value of the suspension is maintained constant in the range from 6 to 8 by the
3 simultaneous addition of a pH modifying compound.

22

1 23. (Original) The method of claim 1, wherein the total quantity of the aluminum compounds
2 added is 2.0 to 7.5% by weight, calculated as Al₂O₃ referred to TiO₂ base material

23

22

1 24. (Original) The method of claim 23, wherein the total quantity of the aluminum compounds
2 added is 3.5 to 7.5% by weight, calculated as Al₂O₃ referred to TiO₂ base material.

1 25. (Canceled)

24

1 26. (previously presented) The method of claim 1, wherein the magnesium compound added is
2 selected from the group consisting of magnesium sulphate and magnesium chloride.

25

1 27. (previously presented) The method of claim 1, wherein the quantity of magnesium
2 compound added is 0.1 to 1.0% by weight, calculated as MgO, referred to TiO₂ base
3 material in the suspension.

26

25

1 28. (Original) The method of claim 27, wherein the quantity of magnesium compound added is
2 0.2 to 0.5% by weight, calculated as MgO, referred to TiO₂ base material in the
3 suspension.

27

1 29. (previously presented) The method of claim 1, further comprising

2 f) treating the pigment with an added material in order to influence the final pH value of the
3 suspension wherein the final pH value of the pigment is controlled by the pH and the quantity of
4 the added material.

28

27

1 30. (Original) The method of claim 29, where the added material is a nitrate compound.

1 32. (canceled)

1 33. (canceled)

30
1 34. (Original) The method of claim 1, where the titanium dioxide base material is milled before
2 step a).

1 36-39. (cancelled)

1 40. (previously presented) A material, comprising:

2 a titanium dioxide pigment material; the titanium dioxide comprising TiO_2 particles, each particle
3 having a surface;

4 phosphorus containing material attached to the surface of each particle:

5 titanium containing material additional to the titanium dioxide material of the surface attached to
6 the phosphorus containing material; and

7 aluminum containing material attached to the titanium containing material additional to the
8 titanium dioxide material of the surface, and:

9 magnesium containing material attached to the aluminum containing material.

1 41. (Canceled)

1 33 32
1 42. (previously presented) The material of claim 40, further comprising;

2 nitrate containing material attached to the aluminum containing material.

1 35 32
1 43. (previously presented) The material of claim 40, further comprising;

2 nitrate and magnesium containing material attached to the aluminum containing material.

1 37 32
1 44. (previously presented) The material of claim 40, wherein the resultant particles contain an
2 insignificant amount of zirconium.

1 39 32
1 45. (previously presented) The material of claim 40, wherein the titanium dioxide pigment
2 material is incorporated into a decorative laminated paper.

1 46. (canceled)

1 34 40 32
1 47. (previously presented) The material of claim 40, wherein the titanium dioxide pigment
2 material is incorporated into a decorative laminated paper.

1 34 33
1 48. (previously presented) The material of claim 42, wherein the titanium dioxide pigment
2 material is incorporated into a decorative laminated paper.

1 36 33 34
1 49. (previously presented) The material of claim 43, wherein the titanium dioxide pigment
2 material is incorporated into a decorative laminated paper.

38
1 50. (previously presented) The material of claim 44, wherein the titanium dioxide pigment
2 material is incorporated into a decorative laminated paper.

1 51. (Canceled)

41
1 52. (previously presented) A method for producing a pigment, comprising:

2 a) adding a phosphorus compound to an aqueous suspension of titanium dioxide base material,
3 then

4 b) adding a titanium compound; and

5 c) adding an acidic aluminum compound wherein no significant amount of zirconium compound
6 is or has been added to the aqueous suspension of titanium dioxide base material; and then

7 d) adjusting the pH value of said suspension to a value of from 8 to 10; and then

8 e) adding a magnesium compound.

42
1 53. (previously presented) The method of claim 52, further comprising:

2 f) adjusting the pH value to a value between 8 and 10 by adding an alkaline aluminum
3 compound.

43 42
1 54. (previously presented) The method of claim 52, further comprising:

2 d f) adjusting the pH value to a value between 8 and 10 by adding an alkaline aluminum
3 compound in combination with a base.

44

- 1 58. (previously presented) A method for producing a pigment, comprising:
- 2 a) adding a phosphorus compound to an aqueous suspension of titanium dioxide base material,
3 then
- 4 b) adding a titanium compound; and
- 5 c) adding an aluminum compound, and then
- d) adding a magnesium compound.

45

44

- 1 56. (previously presented) The method of claim 55, wherein the magnesium compound added is
2 selected from the group consisting of magnesium sulphate and magnesium chloride.

46

44

- 1 58. (previously presented) The method of claim 55, wherein the quantity of magnesium
2 compound added is 0.1 to 1.0% by weight, calculated as MgO, referred to TiO₂ base
3 material in the suspension.

47

46

- 1 58. (previously presented) The method of claim 57, wherein the quantity of magnesium
2 compound added is 0.2 to 0.5% by weight, calculated as MgO, referred to TiO₂ base
3 material in the suspension.

48

44

- 1 59. (previously presented) The method of claim 55, further comprising
- 2 e) treating the pigment with an added material in order to influence the final pH value of the
3 suspension wherein the final pH value of the pigment is controlled by the pH and the
4 quantity of the added material.

49

48

- 1 60. (previously presented) The method of claim 59, where the added material is a nitrate

2 compound.

30
1 31. (Previously presented) The method of claim 30, where the finished pigment contains up to
2 1.0% by weight NO₃.

49